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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,370	09/30/2003	Ralph Peter Stodd	7721-C2	5984

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EXAMINER

CASTELLANO, STEPHEN J

ART UNIT	PAPER NUMBER
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3781

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/675,370

Applicant(s)

STODD, RALPH PETER

Examiner

Stephen J. Castellano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Claims 1-31 have been canceled. Claims 32-39 are pending.

The effective filing date of the claims 32-39 is believed to be February 19, 2002 as application serial No. 10/078152 (patent 6516968) doesn't support the presently claimed embodiment which is believed to be represented by Fig. 7 and 8 of the present application. The disclosure of application serial No. 09/898802 and patent 6419110 do not support an embodiment having upper and lower chuck walls and an angular break between the upper and lower chuck walls.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cospen (3843014) in view of Bozek (3417898) and Bacon (5971259).

Cospen discloses a one-piece sheet metal can shell having in progression from outer edge to center; (1) crown, (2) angular junction, (3) upper chuck wall (UCW), (4) angular break, (5) lower chuck wall (LCW), (6) countersink (CSK), (7) panel wall (PW) and (8) center panel. The first angle is the angle of the UCW between the angular junction and angular break and is A2 in applicant's specification, the second angle is the angle of the LCW between the angular break and the CSK and is A3 in applicant's specification, the third angle is the angle of the inner wall of the crown extending upwardly of the angular junction and is A4 in applicant's specification, and the fourth angle is the angle of the PW between the CSK and the center panel. Cospen discloses the angular relationships of first angle greater than second angle, third angle less than

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first angle, and fourth angle greater than first angle. Cospen discloses the invention except for second angle being greater than 10 degrees. Bozek teaches a chuck wall angle extending from the CSK as shown as C in Fig. 5 of 4-12 degrees. Bacon teaches a chuck wall angle extending from the CSK as shown as b in Fig. 3 of 10-20 degrees. It would have been obvious to modify the angle to be within the ranges taught by Bozek and Bacon in order to optimize the angle at which the chuck wall extends from the CSK to provide a shallow angle so that depth of the can end doesn't diminish the capacity of the can and still be steep enough to properly reinforce and attach to the open end of a can body by double seam curling of the can end with the can body.

Claims 32, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden et al. (Borden) (6126034) in view of Bozek (3417898) and Bacon (5971259).

Borden discloses a similar can end profile in Fig. 8 as Cospen. Borden discloses a one-piece sheet metal can shell having in progression from outer edge to center; (1) crown, (2) angular junction, (3) upper chuck wall (UCW), (4) angular break, (5) lower chuck wall (LCW), (6) countersink (CSK), (7) panel wall (PW) and (8) center panel. The first angle is the angle of the UCW between the angular junction and angular break and is A2 in applicant's specification, the second angle is the angle of the LCW between the angular break and the CSK and is A3 in applicant's specification, the third angle is the angle of the inner wall of the crown extending upwardly of the angular junction and is A4 in applicant's specification, and the fourth angle is the angle of the PW between the CSK and the center panel.

Re claim 34, Borden discloses that the angular junction is located well above the center panel before the can end is double seamed. Since the relationship between the position of the chuck wall to the position of the center panel would not move significantly from before double

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seaming to after as most of the deformation occurs in the curled crown, the angular junction is definitely above the center panel after double seaming as well. Borden discloses the angular relationships of first angle greater than second angle, third angle less than first angle.

Borden discloses the invention except for second angle being greater than 10 degrees. Bozek teaches a chuck wall angle extending from the CSK as shown as C in Fig. 5 of 4-12 degrees. Bacon teaches a chuck wall angle extending from the CSK as shown as b in Fig. 3 of 10-20 degrees. It would have been obvious to modify the angle to be within the ranges taught by Bozek and Bacon in order to optimize the angle at which the chuck wall extends from the CSK to provide a shallow angle so that depth of the can end doesn't diminish the capacity of the can and still be steep enough to properly reinforce and attach to the open end of a can body by double seam curling of the can end with the can body.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Borden in view of Bozek and Bacon as applied to claim 32 above, and further in view of Brifcani (6065634).

Claims 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borden in view of Bozek, Bacon and Brifcani (6065634).

For claim 33, the Borden-Bozek-Bacon combination discloses the invention except for the claim 33 width relationship. For claims 36-39, Borden, Bozek and Bacon are applied in a similar fashion as stated above and the width relationship as stated in claim 37 is similar to the width relationship stated in claim 33. The width relationship of claim 37 inherently discloses the width relationship of claim 36. The width relationship simply stated is: Upper chuck wall width greater than inner chuck wall width plus CSK width or $W_{UCW} > W_{LCW} + W_{CSK}$.

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Borden's chuck wall has a steep configuration having an angle generally perpendicular to the center panel. Brifcani teaches a can end with a similar configuration having a chuck wall and a CSK, the chuck wall has a shallower profile with angle C being between 20 to 60 degrees with respect to the center axis, also the radial dimensions of the chuck wall of: $\frac{1}{2} d3 - \frac{1}{2} d2 - r1 = W_{CW} = 3.685 \text{ mm}$ (using dimensions from table in col. 3). Also, the cross sectional radius of the antipeaking bead (r_3) as stated in col. 3, line 37 is 0.5 mm. Therefore, the $W_{CSK} = 1.0 \text{ mm}$.

By replacing the relatively short and steeply angled UCW of Borden with the longer and shallower angled chuck wall of Brifcani, the resulting UCW would be approximately equal to 3.685 mm. The LCW would be much less than 1 mm in width and the width of the CSK of 1 mm. Then the width of the CSK plus the LCW would be less than 2 mm and the width limitation $W_{UCW} > W_{LCW} + W_{CSK}$ would be met.

It would have been obvious to modify the UCW of Borden to be shallower by increasing the width of the UCW to 3.685 mm and increasing the angle with the vertical axis to between 20 to 60 degrees to provide a more efficient use of material as this would decrease the amount of material necessary for the can end of the same thickness. It would have been obvious to modify the CSK to have Brifcani's dimensions as a matter of design choice. These changes in dimensions would also move the CSK inwardly towards the center axis which better protects the center area of the can end. With this change in dimension the $W_{UCW} > W_{LCW} + W_{CSK}$ and $W_{UCW} > W_{CSK}$ limitations would be met.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cospen in view of Bozek and Bacon as applied to claim 32 above, and further in view of Brifcani (6065634).

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The reasoning for this rejection is the same as for the Borden in view of Bozek and Bacon and further in view of Brifcani rejection as stated above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Castellano whose telephone number is 571-272-4535.

The examiner can normally be reached on increased flexibility plan (IFP).

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Stephen J. Castellano
Primary Examiner
Art Unit 3727

sjc